

<div><div><div>Well: Nalcor et al Seamus 1</div><div>Field: Parson's Pond</div><div>Rig: Stoneham #11</div></div><div><div>Company: Nalcor Energy Oil and Gas</div><div>Province: Newfoundland</div></div></div>									
<div><div>CEMENT VOLUME LOG</div><div><div><div>Latitude: 49.98 N</div><div>Longitude: 57.70 W</div></div><div><div>Elev.: 26.99 m</div><div>G.L. 20.69 m</div><div>D.F. 26.69 m</div></div></div><div><div>Permanent Datum: _____</div><div>Ground Level _____</div><div>Elev.: 20.69 m _____</div></div><div><div>Log Measured From: _____</div><div>Kelly Bushing _____</div><div>6.30 m above Perm. Datum</div></div><div><div>Drilling Measured From: _____</div><div>Kelly Bushing _____</div></div></div>									
Logging Date		15-May-2010		Latitude 49.98 N		Longitude 57.70 W			
Run Number		Run 1							
Depth Driller		3160 m							
Schlumberger Depth		3129.2 m							
Bottom Log Interval		3122.4 m							
Top Log Interval		2292.5 m							
Casing Driller Size @ Depth		244.500 mm @ 2292.4 m							
Casing Schlumberger		2292.5 m							
Bit Size		216.000 mm							
Type Fluid In Hole		Gel Chem							
Density		1170 kg/m3		60 s					
Fluid Loss		PH 7.6 cm3		9.7					
Source Of Sample		Mud Pit							
RM @ Measured Temperature		0.950 ohm.m @ 21 degC							
RMF @ Measured Temperature		0.710 ohm.m @ 21 degC							
RMC @ Measured Temperature		1.450 ohm.m @ 21 degC							
Source RMF		RMC		Calculated					
RM @ MRT		RMF @ MRT		0.546 @ 53 0.408 @ 53					
Maximum Recorded Temperatures		53 degC							
Circulation Stopped		15-May-2010		8:30					
Logger On Bottom		15-May-2010		18:25					
Unit Number		Location		6061 St.John's					
Recorded By		Greg Au							
Witnessed By		R. Strickland							

[illegible]

Logging Date				
Run Number				
Depth Driller				
Schlumberger Depth				
Bottom Log Interval				
Top Log Interval				
Casing Driller Size @ Depth		@		
Casing Schlumberger				
Bit Size				
Type Fluid In Hole				
Density	Viscosity			
Fluid Loss	PH			
Source Of Sample				
RM @ Measured Temperature		@		
RMF @ Measured Temperature		@		
RMC @ Measured Temperature		@		
Source RMF	RMC			
RM @ MRT	RMF @ MRT	@	@	
Maximum Recorded Temperatures				
Circulation Stopped	Time			
Logger On Bottom	Time			
Unit Number	Location			
Recorded By				
Witnessed By				

OTHER SERVICES1	OTHER SERVICES2
OS1: PEX-AIT	OS1:
OS2: DSI-FMI	OS2:
OS3: MDT	OS3:
OS4: VSP	OS4:
OS5:	OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
All tools run as per tool sketch	
AIT run with 3 x 1.5" standoffs	
2 x AH-107 knuckle joints run above AIT for eccentralization	
HGNS run using a standard bowspring for eccentralization	
Nuclear measurements recorded on both Sandstone, Limestone, and Dolomite matrices	

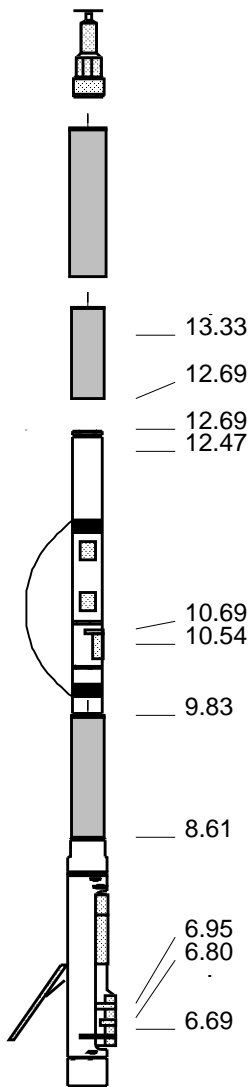
Nuclear measurements recorded on both Sandstone, Limestone, and Dolomite matrices
Hole Volume calculated using HILT Caliper from TD to CD and future casing diameter 177.8 mm
Due to hole conditions the repeat log was done below casing as per request by client

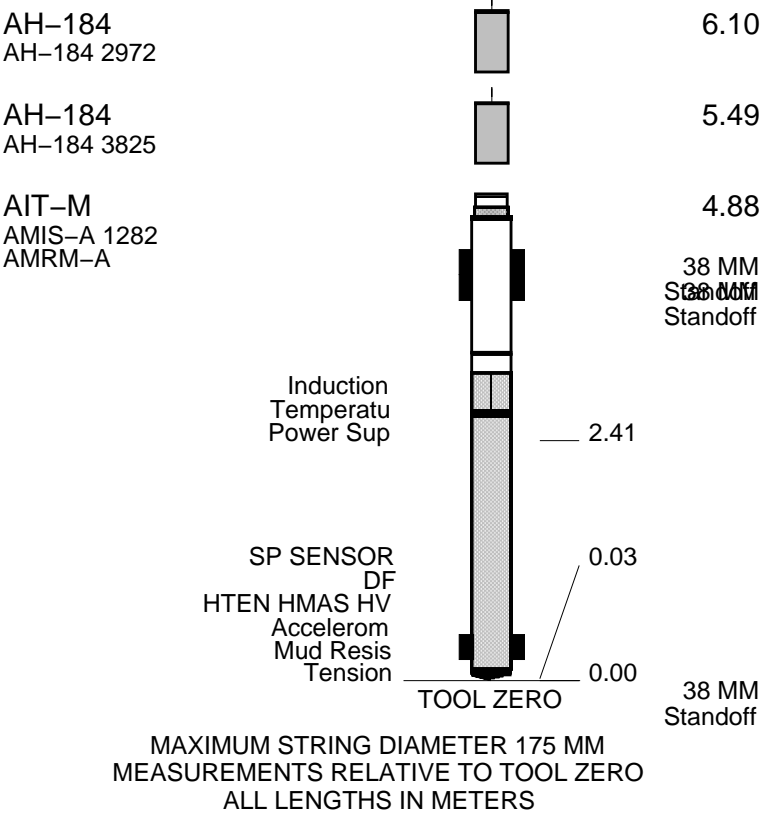
RUN 1			RUN 2		
SERVICE ORDER #:		BCJ0-00028	SERVICE ORDER #:		
PROGRAM VERSION:		17C0-154	PROGRAM VERSION:		
FLUID LEVEL:		0 m	FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION					
RUN 1			RUN 2		

SURFACE EQUIPMENT	
WITM (DTS)-A	
GSR-U/Y	
NCT-B	
CNB-AB	
NCS-VB	

DOWNHOLE EQUIPMENT	
LEH-QT	15.98
LEH-QT	
SAH-F	15.10
SAH-F	
DTC-H	13.33
ECH-KC 9932	12.69
DTCH0-A 8855	12.69
DTCH1-A	12.47
HILTH-FTB	12.69
HGNSD-H 4706	
HMCA-H	
HGNH 3771	
NLS-KL	
NSR-F 5004	
HACCZ-H	
HCNT-H	
HGR	
HRCC-H 3990	
HRMS-H 3971	
HRGD-H 3996	
GLS-VJ 5237	
MCFL Device-H	
HILT Nucl. LS-H 28928	
HILT Nucl. SS-H 42002	
HILT Nucl. BS-H 26963	
BOW-SPR	
NPV-N	
CTEM	
TelStatus	
ToolStatu	
HGNS HTEM	
HMCA	
HGNS Gamm	
HGNS Neut	
HGNS Neut	
HGNS sens	
HRCC cart	
MCFL	
HILT cali	
HRDD-LS	
HRDD-SS	
HRDD-BS	





Input DLIS Files						
DEFAULT	AIT_TLD_MCFL_CNL_009LUP	FN:9	PRODUCER	15-May-2010 18:24	3135.5 M	2218.0 M
Output DLIS Files						
DEFAULT	AIT_TLD_MCFL_CNL_016PUP	FN:23	PRODUCER	15-May-2010 20:21	3140.5 M	2223.1 M
CUSTOMER	AIT_TLD_MCFL_CNL_016PUP	FN:24	PRODUCER	15-May-2010 20:21	3140.5 M	2223.1 M

Integrated Hole/Cement Volume Summary	
Hole Volume = 45.03 M3	
Cement Volume = 23.97 M3 (assuming 177.80 MM casing O.D.)	
Computed from 3140.5 M to 2292.4 M using data channel(s) HCAL	

OP System Version: 17C0-154			
AIT-M	17C0-154	HILTH-FTB	17C0-154
DTC-H	17C0-154		

PIP SUMMARY	
└ Integrated Hole Volume Minor Pip Every 0.1 M3	
└ Integrated Hole Volume Major Pip Every 1 M3	
└ Integrated Cement Volume Minor Pip Every 0.1 M3	
└ Integrated Cement Volume Major Pip Every 1 M3	
Time Mark Every 60 S	

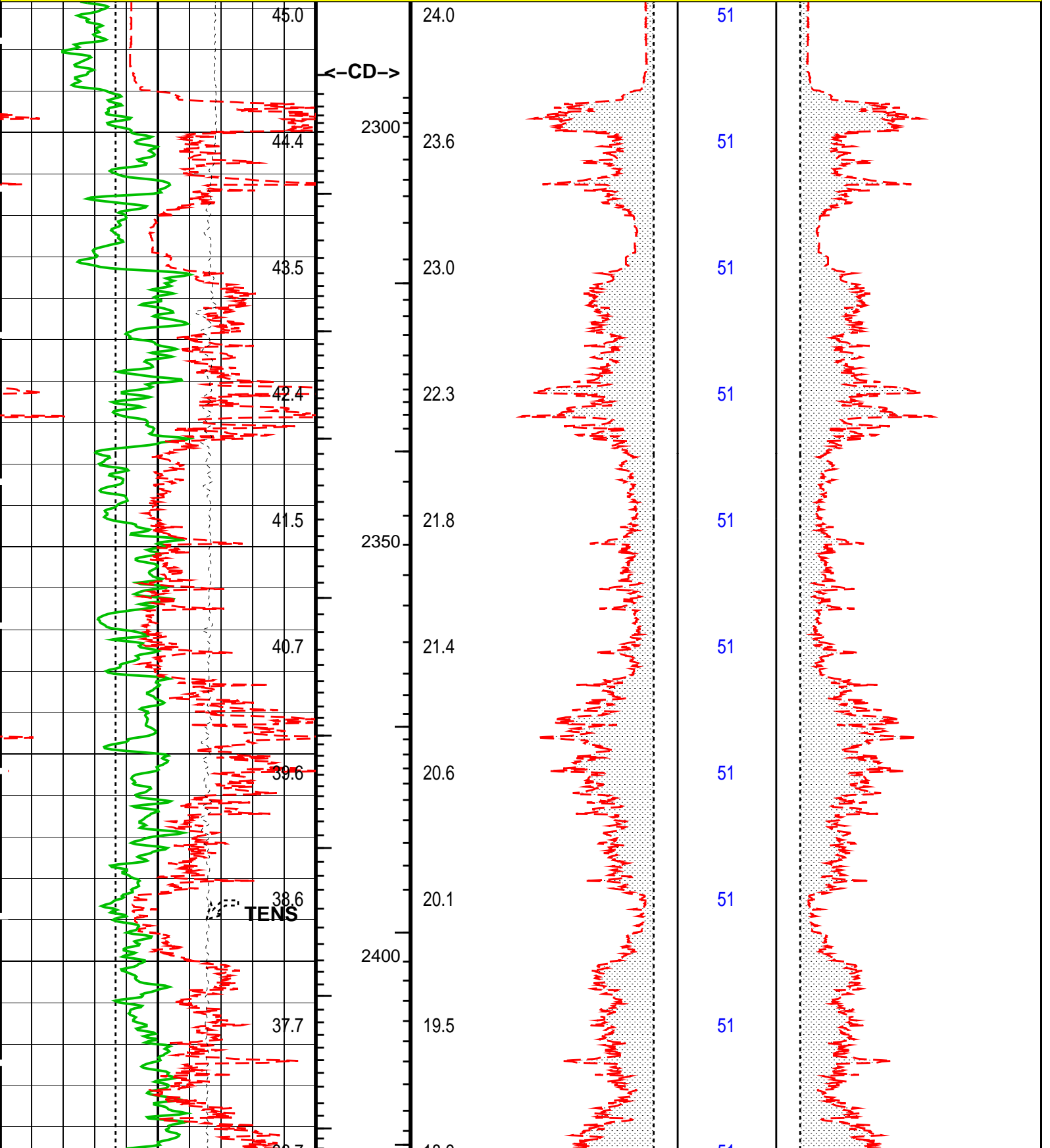
	Washout From HCAL_1 to BS2	Tight Spot From HCAL_2 to BS3
	Tight Spot From BS2 to HCAL_1	Washout From BS3 to HCAL_2
	Annulus From BS2 to FCD2	Annulus From FCD3 to BS3
	Future Casing	

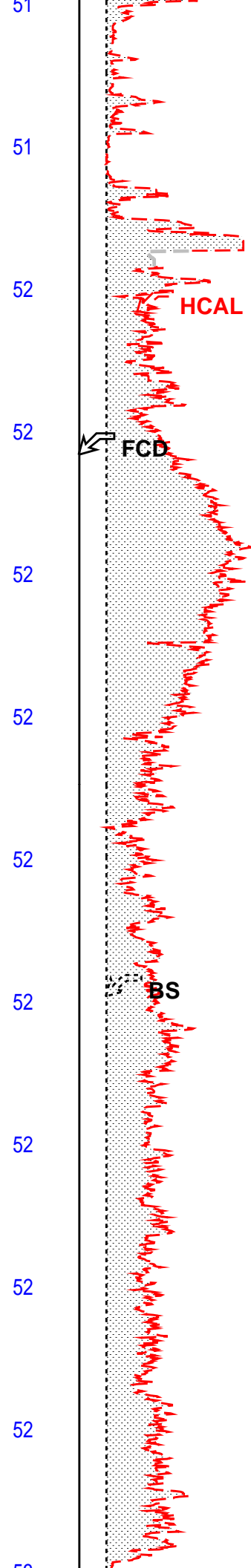
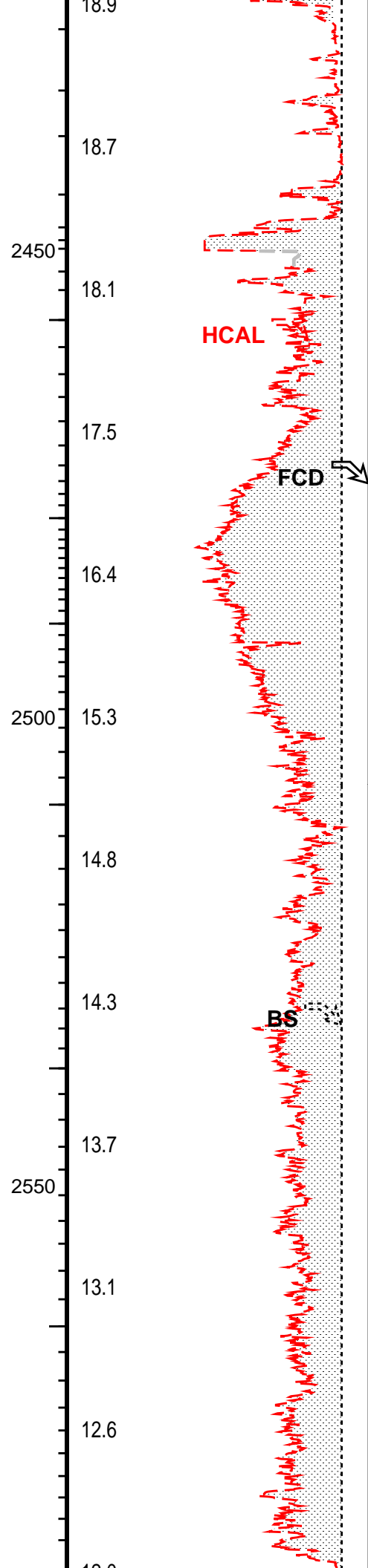
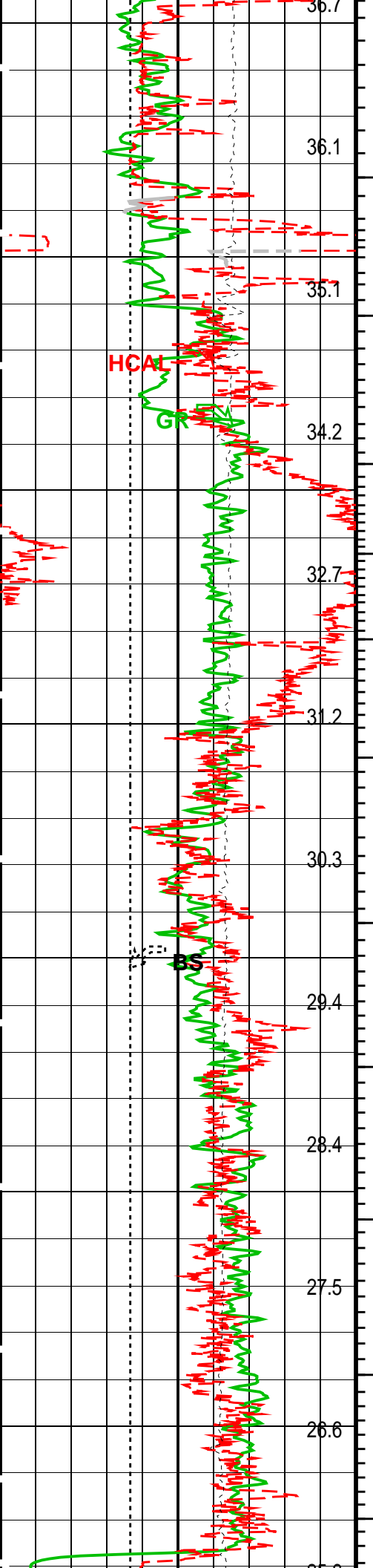
Tension (TENS)

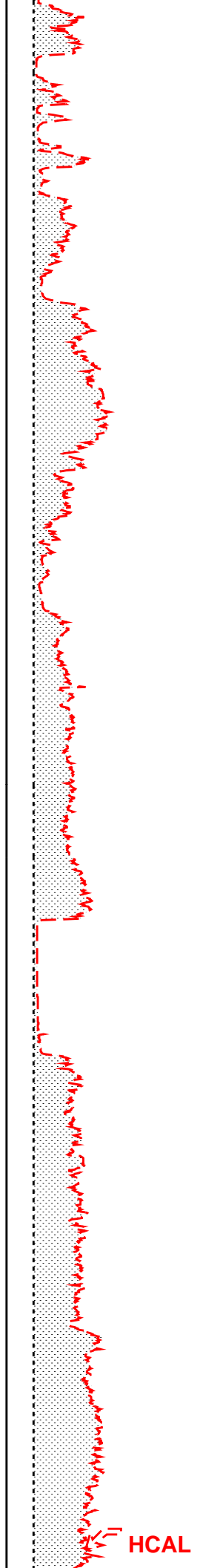
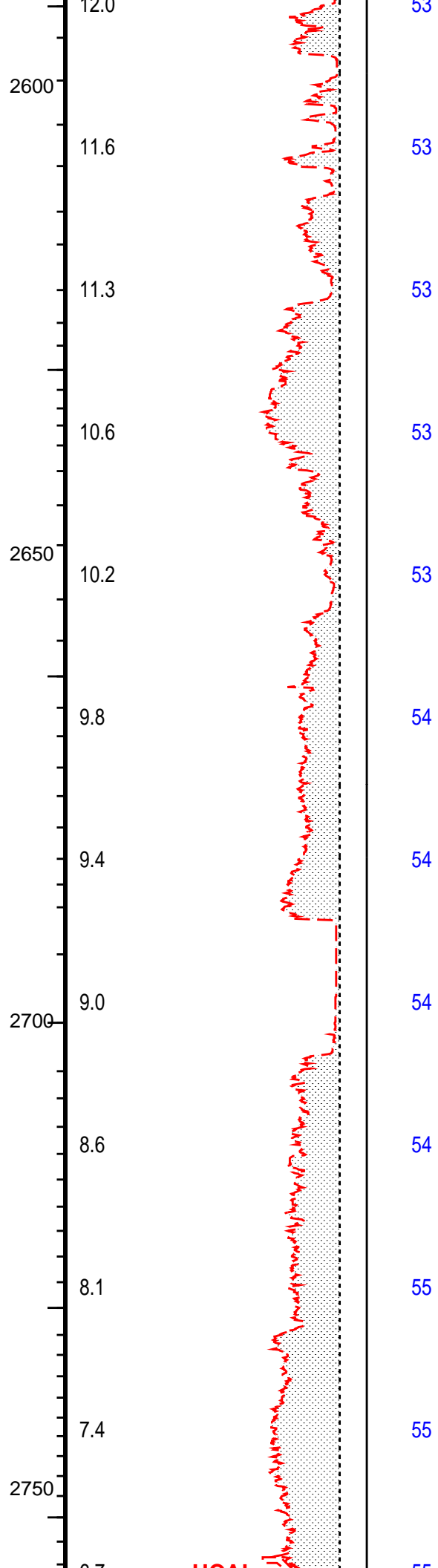
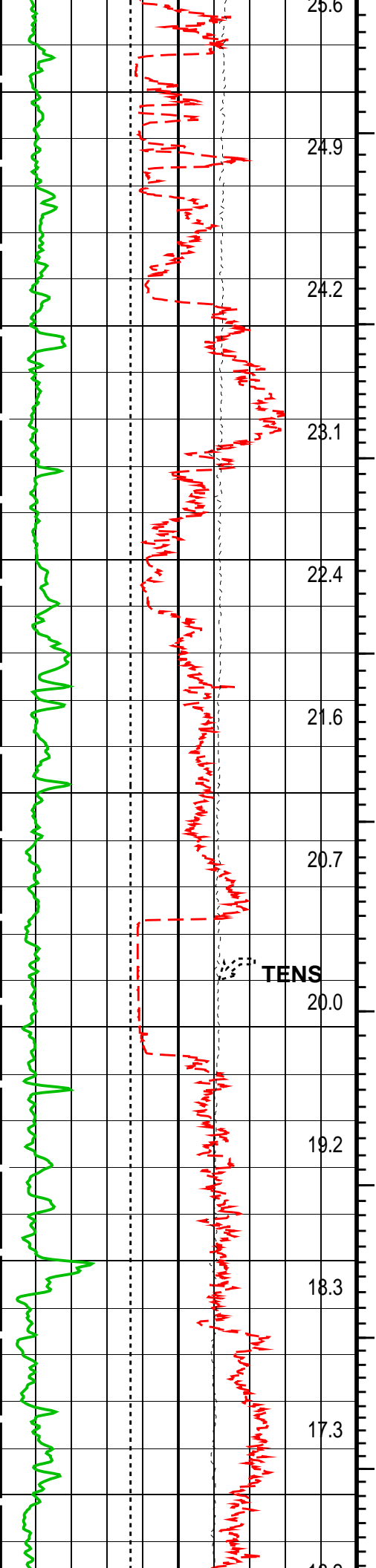
25000 (N) 0

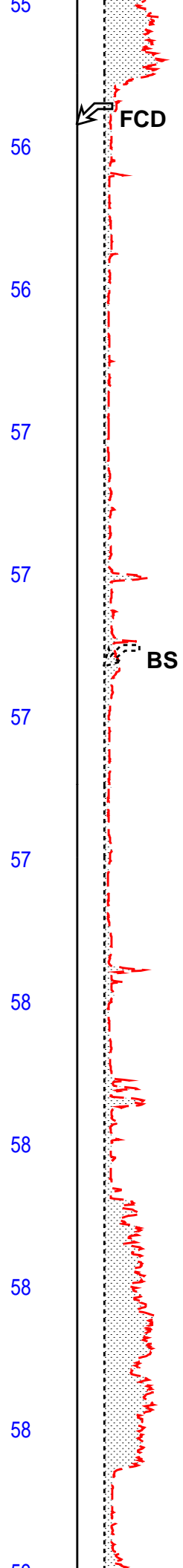
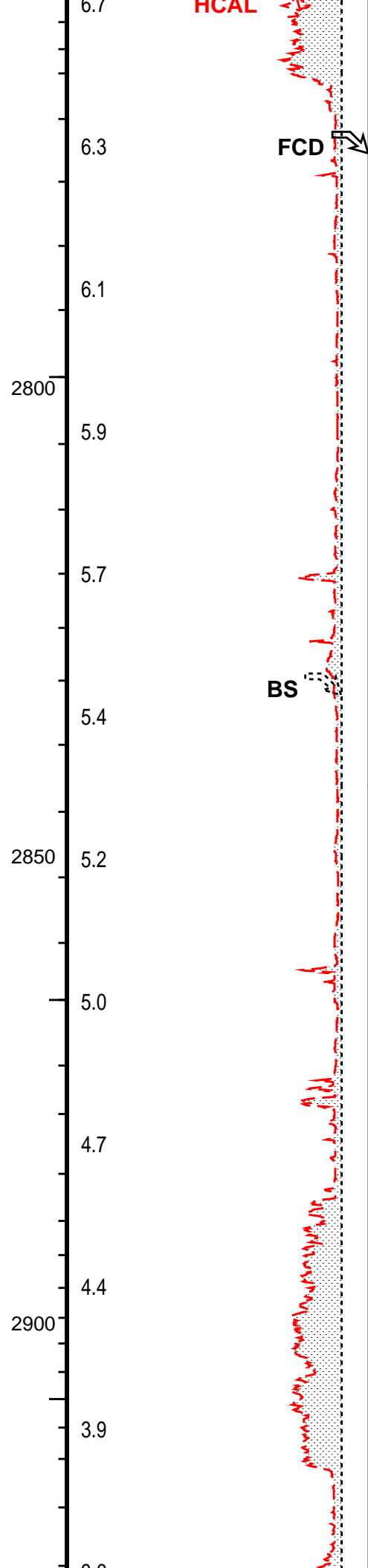
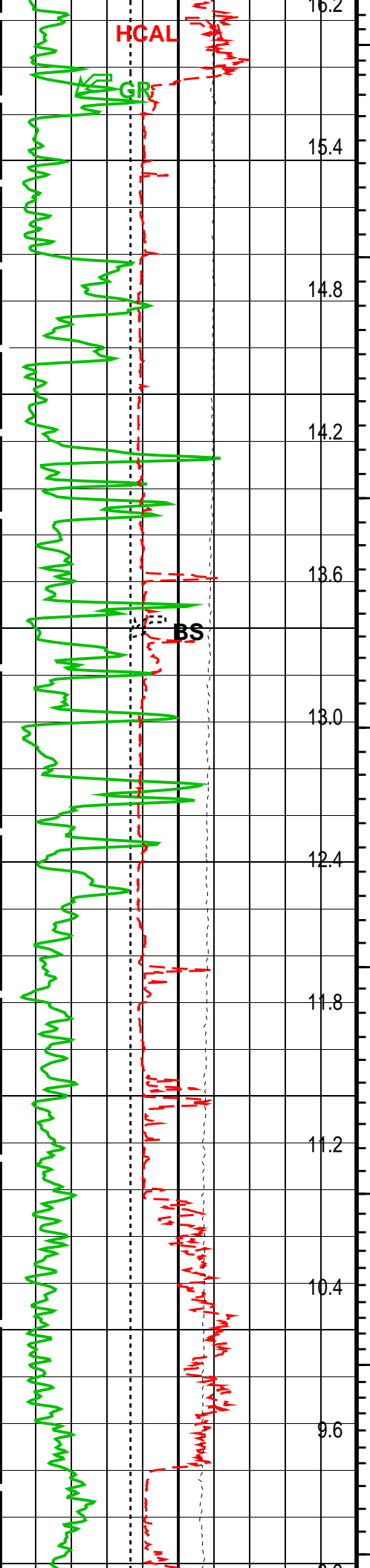
Gamma Ray (GR)			PRIMARY CALIPER (HCAL)			PRIMARY CALIPER (HCAL)		
0	(GAPI)	150	600	(MM)	100	100	(MM)	600
PRIMARY CALIPER (HCAL)			FCD2 (FCD)			FCD3 (FCD)		
125	(MM)	375	600	(MM)	100	100	(MM)	600
Bit Size (BS)			Bit Size (BS)			Bit Size (BS)		
125	(MM)	375	600	(MM)	100	100	(MM)	600

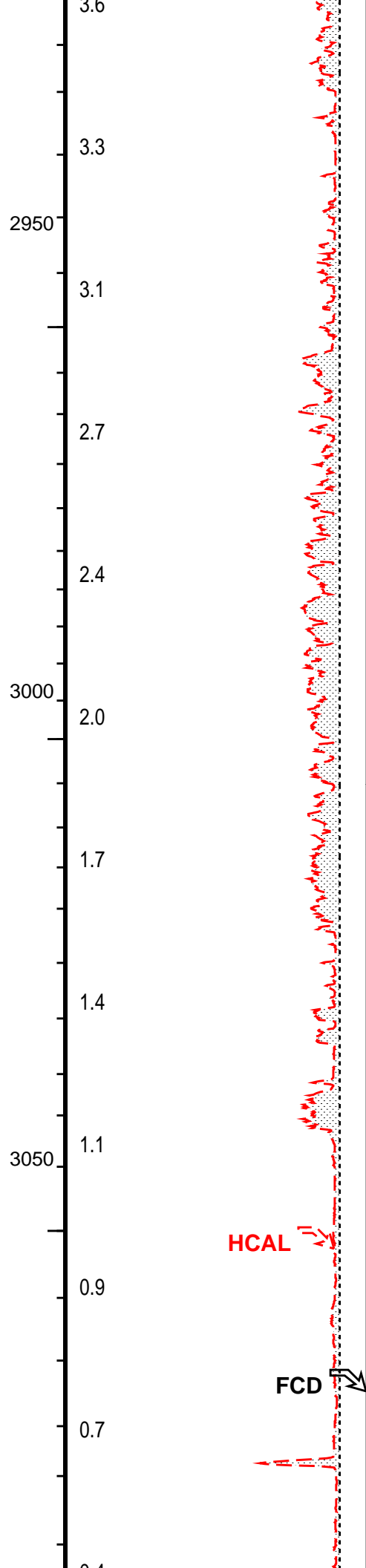
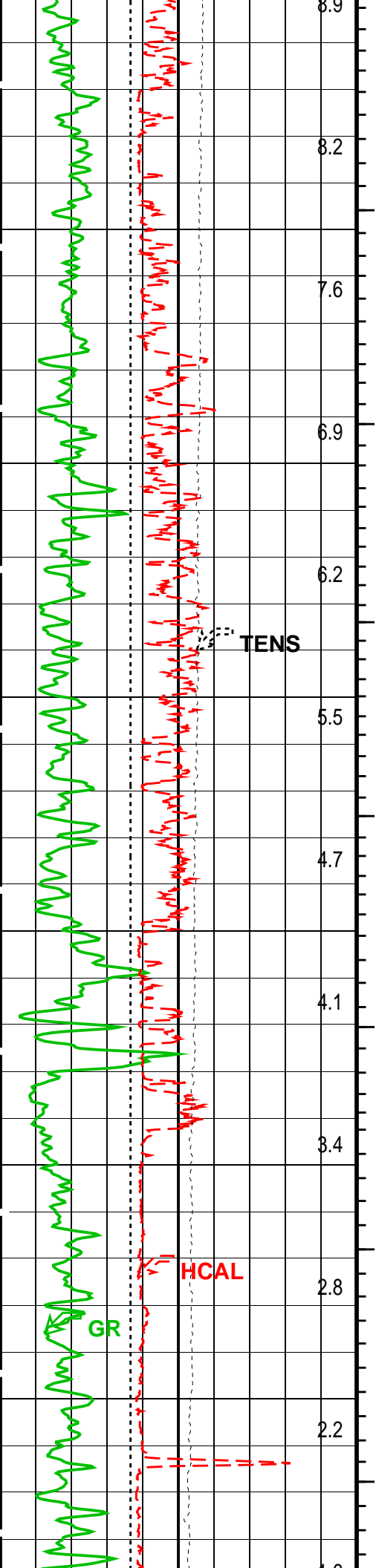
CEMENT VOLUME LOG











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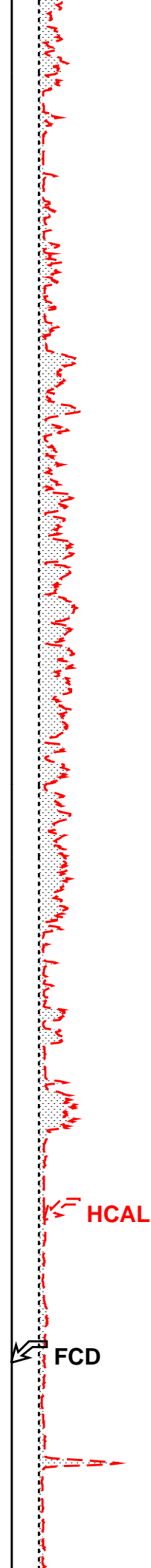
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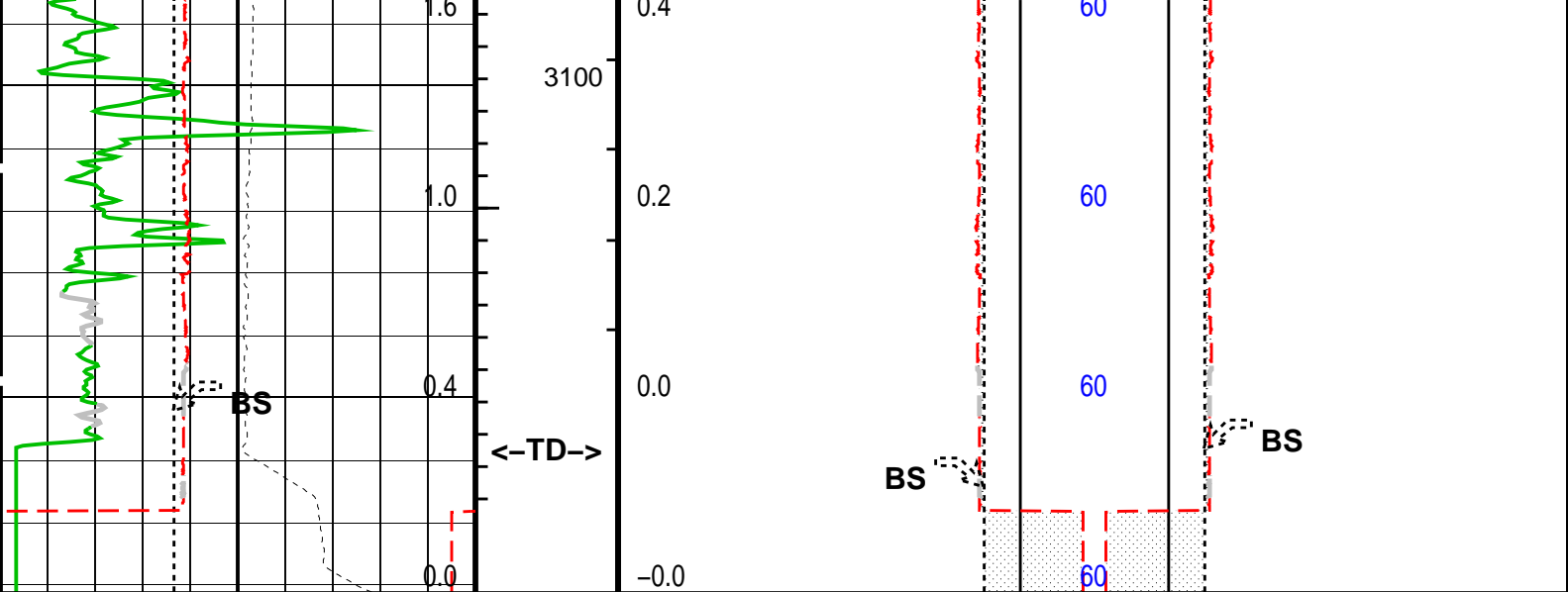
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CEMENT VOLUME LOG

Bit Size (BS)		
125	(MM)	375
PRIMARY CALIPER (HCAL)		
125	(MM)	375
Gamma Ray (GR)		
0	(GAPI)	150
Tension (TENS)		
25000	(N)	0

Bit Size (BS)		Bit Size (BS)	
600	(MM)	100	100
FCD2 (FCD)		FCD3 (FCD)	
600	(MM)	100	(MM)
PRIMARY CALIPER (HCAL)		PRIMARY CALIPER (HCAL)	
600	(MM)	100	(MM)
Future Casing			
Annulus From BS2 to FCD2		Annulus From FCD3 to BS3	
Tight Spot From BS2 to HCAL_1		Washout From BS3 to HCAL_2	
Washout From HCAL_1 to BS2		Tight Spot From HCAL_2 to BS3	

PIP SUMMARY

- └ Integrated Hole Volume Minor Pip Every 0.1 M3
- └ Integrated Hole Volume Major Pip Every 1 M3
 - └ Integrated Cement Volume Minor Pip Every 0.1 M3
 - └ Integrated Cement Volume Major Pip Every 1 M3

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
FCD	HOLEV: Integrated Hole/Cement Volume	177.8	MM
HVCS	Future Casing (Outer) Diameter	HCAL	
	Integrated Hole Volume Caliper Selection		
LBFR	STI: Stuck Tool Indicator	TDL	
TDD	Trigger for MAXIS First Reading Label	3160.00	M
TDL	Total Depth – Driller	3160.00	M
	Total Depth – Logger		
	System and Miscellaneous		
BS	Bit Size	216.000	MM
DO	Depth Offset for Playback	5.0	M
DORL	Depth Offset for Repeat Analysis	0.0	M
PP	Playback Processing	RECOMPUTE	
TD	Total Depth	3160	M

Format: CVL Vertical Scale: 1:600 Graphics File Created: 15-May-2010 20:21

OP System Version: 17C0-154

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Company:
Nalcor Energy Oil and Gas

Well:
Field:
Rig:
Province:

Nalcor et al Seamus 1
Parson’s Pond
Stoneham #11
Newfoundland

Schlumberger

CEMENT VOLUME LOG